

GENERIC NAME:

ATROPINE SULFATE

112.04

BRAND NAME: Atropine

CLASS: parasympatholytic, antimuscarinic, anticholinergic, parasympathetic antagonist, parasympathetic blocker

Mechanism of Action:

Pharmacological: Competitive antagonist of acetylcholine at muscarinic receptor sites (smooth muscle and glands, blocking parasympathetic response and allowing sympathetic response to take over).

Clinical:

CV: Increased heart rate (positive chronotropic effect); increased conduction velocity; increased force of contraction (slight).

Resp: Decreased mucous production; increased bronchial smooth muscle relaxation (bronchodilation).

GI: Decreased GI secretion and motility.

GU: Decreased urinary bladder tone.

Misc: Mydriasis (pupillary dilation); decreased sweat production.

Indications and Field Use:

Symptomatic bradycardia (sinus, junctional, and AV blocks causing significant hypotension, ventricular ectopy, chest pain, altered level of consciousness, etc.), monitored patient only.

Asystole (after epinephrine), monitored patient only.

PEA with actual or relative bradycardia (after epinephrine), monitored patient only.

Acetylcholinesterase inhibitor poisoning (organophosphate, cholinergic poisoning).

Bronchospasm, refractory (second or third line), in conjunction with albuterol or isoetherine.

Contraindications:

Glaucoma, acute narrow angle (relative contraindication for patient with symptomatic bradycardia)

Adverse Reactions:

Major: Tachydysrhythmias; ventricular irritability; exacerbation/initiation of angina; acute narrow angle glaucoma; agitation to delirium.

Minor: Dry mouth/mucous membranes; urinary retention; decreased sweating/increased body temperature.

NOTES ON ADMINISTRATION

Incompatibilities/Drug Interactions:

Sodium bicarbonate (relative)

Adult Dosage:

Symptomatic Bradycardia: 0.5-1.0 mg rapid IV push or via ET every 3-5 minutes to a total dose of 3 mg if symptoms profound (0.03-0.04 mg/kg).

Asystole or PEA with bradycardia: 1.0 mg rapid IV push or via ET every 3-5 minutes to a total dose of 3 mg.

Cholinergic or organophosphate poisoning: 2.0-5.0 mg IV, may repeat in 5 minutes. Max dose is unlimited.

Bronchospasm: 1.0 mg SVN prepared by using 2.5 ml of 0.4 mg/ml solution out of 8 mg/20 ml vial (may add 0.5 ml NS to make 3 ml inhalation treatment, 2.5 ml is adequate) administered with a mouth piece, O₂ mask, or in-line with a ventilatory device; may repeat in 30 minutes or according to medical control preference.

Pediatric Dosage:

Symptomatic Bradycardia only: 0.02 mg/kg (minimum of 0.1 mg) IV push (after epinephrine). May repeat only one time.

Maximum single doses: Child 0.5 mg; Adolescent 1 mg.

Bronchospasm: 0.5 mg SVN prepared by using 1.25 ml of 0.4 mg/ml solution out of 8 mg/20 ml vial, may add 1.25-1.75 ml NS to make 2.5-3 ml inhalation treatment (2.5 ml is adequate). Administer with a mouth piece, O₂ mask or in-line with a ventilatory device. May repeat in 30 minutes or according to medical control preference.

Routes of Administration:

IV, ET, SVN

Onset of Action:

1 minute

Peak Effects:

2-5 minutes

Duration of Action:

2 hours

Dosage Forms/Packaging:

1 mg/10 ml Prefilled syringes and 8 mg/20 ml multi-dose vial

